ENTOMOLOGICAL NEWS

OCTOBER, 1934

Vol. XLV No. 8

HARRISON GRAY DYAR,
1866-1929.

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PHILADELPHIA, PA.
THE ACADEMY OF NATURAL SCIENCES,
Logan Square

Entered at the Philadelphia, Pa., Post Office as Second Class Matter.
Acceptance for mailing at the special rate of postage prescribed for in Section 1.
Act of October 3, 1917, authorized January 15, 1921.

ENTOMOLOGICAL NEWS

published monthly, excepting August and September, by The American Entomological Society.

Philip P. Calvert, Ph.D., Editor; E. T. Cresson, Jr., R. G. Schmieder, Ph.D., Associate Editors.

Advisory Committee: Philip Laurent, J. A. G. Rehn, Chas. Liebeck, J. Chester Bradley, Ph.D., Frank Morton Jones, Sc.D., John C. Lutz, Max Kisliuk, Jr., Wm. W. Chapman.

The subscription price per year of ten (10) numbers is as follows:

United States and possessions, Central and South America . .	$3.00
Canada	3.15
Foreign	3.25

Single copies 35 cents.

ADVERTISING RATES: Full width of page. Payments in advance.
One issue, 1 in., $ 1.20, 2 in., $ 2.40, half page, $ 4.00, full page, $ 7.00
Ten issues " 11.00, " 20.00, " 35.00, " 60.00

SUBSCRIPTIONS. All remittances and communications regarding subscriptions, non-receipt of the NEWS or of reprints, and requests for sample copies, should be addressed to

ENTOMOLOGICAL NEWS, 1900 Race Street, PHILADELPHIA, PA.

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ENTOMOLOGICAL NEWS

VOL. XLV. OCTOBER, 1934 No. 8

A New Membracid Collected by Charles Darwin (Homoptera).

By W. D. FUNKHOUSER, University of Kentucky, Lexington.

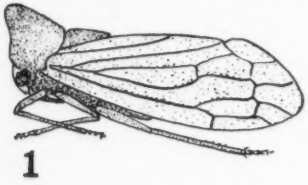
In the routine work of determining museum material, one experiences somewhat of a thrill to find a specimen bearing the label: "Collector, C. Darwin."

The species here described as new was collected by Charles Darwin on the now famous voyage of the Beagle and has remained unnamed in the British Museum for over one hundred years. Through the courtesy of Mr. W. E. China the writer has had the opportunity of examining the specimens taken by Darwin at Chiloe, when H. M. S. Beagle visited that island in November, 1832.

The new species may be described as follows:

Orekthen darwini sp. nov.

Small, reddish-brown, concolorous, coarsely punctate; pronotum projecting in a short, porrect horn; scutellum entirely ex-



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Orekthen darwini Funkh. 1. Lateral view—adult. 2. Frontal outline—adult. 3. Lateral view—nymph. 4. Frontal outline—nymph.

posed; no posterior process; head not sulcate; tegmina smoky hyaline; undersurface and legs reddish-brown.

Head subtriangular, roughly sculptured, brown, punctate, not pubescent; base arcuate, depressed at center; eyes large, dark brown; ocelli small, amber-colored, twice as far from each other as from the eyes and situated below a line drawn through centers of eyes; clypeus rounded, about as wide as long; inferior margins of genae sinuate.

Pronotum uniform reddish-brown without markings, coarsely punctate, not pubescent; pronotal process porrect, short, not as long as its width at base, extending forward and upward, tip rounded; humeral angles small, triangular, blunt, extending outward only a little farther than the eyes; metopidium straight; median carina strongly percurrent; scutellum entirely exposed, triangular, tip sharp; no posterior process.

Tegmina wrinkled, smoky-hyaline; tips broadly rounded; veins strong and punctate; five apical and two discoidal cells; no limbus; base coriaceous. Wings with four apical cells.

Sides of thorax, undersurface and legs uniform reddish-brown.

Length from front of head to tips of tegmina 4.6 mm.; from tip of pronotal process to tips of tegmina 5.2 mm.; width between humeral angles 1.4 mm.

Type: female.

Near *O. osborni* Funkh., but smaller, differing in color, pronotal horn much shorter and without markings, humeral angles much less produced, slightly different wing venation and clypeus differently shaped.

Described from two females and a nymph collected by Darwin on Chiloe Island and one female from the same locality taken by F. and M. Edwards on November 20, 1926. Type, paratype and nymph in British Museum collection; one paratype in author's collection.

The nymph, which is apparently in the last instar, has a fully formed pronotal process, well developed wing-buds, distinct mesothorax and metathorax, seven abdominal segments and a strongly binodular head.

The writer is greatly indebted to Mr. W. E. China, not only for the privilege of studying this material, but for the many courtesies extended to him on the occasion of his five weeks' stay in London in the summer of 1933.

Notes on Basilarchia lorquini Bdv., form fridayi Gun. (Lepid.: Nymphalidae).

By C. Brown, San Diego, California.

From July 13th to 16th in 1933 Mr. Creelman, his son Bob and I made a special collecting trip to secure this form of *Basilarchia* (Can. Ent., p. 284, Dec. 1932) at its type locality on the west shores of Mono Lake in Mono County, California. We found the best locality for it to be just north of the little village of Mono Lake, along the asphalt road where willows abound. More specimens were taken around noonday before the afternoon winds came up. Some 130 *Bas. weidemeyerii nevadae* B. & Benj. and 55 *Bas. lorquini,* form *fridayi* Gun. were taken, together with a sprinkling of what can be termed straight *Bas. lorquini* Bdv. It seemed difficult to net perfect examples without wing damage. This will probably always be the case as the individuals are hardy and long-lived, regardless of their habitat. In both sexes of *lorquini* and *fridayi* an occasional *cavesii* Hy. Edw. was taken; this is the form of *lorquini* in which a reddish row of spots occur on the upper side of the secondaries. I understand from Mr. Gunder that *cavesii* rarely shows up in true *nevadae* at its type locality which is on Mt. Charleston in southern Nevada (only a slight trace was noticed on one female). It may be interesting to note that race *nevadae* occurring at Mono Lake has wider white bands than the type locality specimens, yet not as wide as species *weidemeyerii* from Colorado. The *cavesii* tendency is supposed to be fairly constant in Colorado specimens as Edwards has shown it in both sexes; yet I do not think this is always the case. Utah examples of *weidemeyerii,* by the way, are banded as wide as, if not wider than, the Colorado ones.

The most noticeable feature of *fridayi* is its Mendelian appearance, combining the characters of both *lorquini* and *nevadae*. I think there is no doubt but that it is a perfect case of cross-breeding between these closely related, yet divergent groups. *Fridayi* is like *nevadae* in its greater wing expanse, the males varying from 2″ to 2 5/16″ and the females from 2 3/8″ to 2 6/8″. In color and design most of the specimens

approach more closely to *nevadae* in appearance than to *lorquini*. This can be readily understood as due to the fact that there are many more *nevadae* in the region than *lorquini*. One specimen, however, did approach very close to *lorquini*, the only obvious difference being the development of the submarginal row of white dots on the upper side. Some of the *nevadae* caught present slight details that show them to be partially crossed with *lorquini*. One without the brown apical tip of *fridayi* has the development of a brown submarginal line on the under side instead of the customary black one of *nevadae*. In all specimens of *fridayi* the apical area color is a deep reddish-brown, whereas in *lorquini*, it is an orange-brown shade. As in *lorquini* the area of this "colored-tip" varies from a small amount to a pronounced extension. In *lorquini* this color is always present and a feature of the species; in *fridayi* it may show up simply as a trace of color, represented by a few of the colored scales at the very tip. The under-side brown color of *fridayi* is much diminished compared to *lorquini*, the limbal area brown giving away to the grayish-white found in *nevadae*. The under-side marginal band of brown on *lorquini* is reduced to a thin submarginal line on *fridayi*. In some cases (two) this line is black as in *nevadae;* or, in other cases, it may be partially black and partially brown. The development of black in this line is the exception rather than the rule. The brown of the general basal area is much reduced as compared to *lorquini*. Some approach closely to *lorquini* and many approach closely to *nevadae*.

Race *burrisonii* Mayn. of *Bas. lorquini* Bdv. occurs in Washington and British Columbia, the best examples probably occurring on Vancouver Island. It is not in any way directly allied with form *fridayi*. All grades of *burrisonii* can be found in intermediate territory towards the south. I am told (Gunder) that the lightest colored examples of *lorquini* are to be found in Kern County, California, and Mr. W. N. Burdick of Los Angeles has taken very lightly colored specimens in the White Mountain region of Mono County; this is just south of the Mono Lake district as it happens. In his lot were two *fridayi* which shows that *nevadae* penetrates this general region neighboring on Mono Lake.

Notes on Coleoptera, No. 4.*

By J. N. KNULL, Ohio State University, Columbus.

The following are a few miscellaneous rearing records and observations which have been made in the last three years. Most of the rearing was done in-of-doors and the dates of emergence are omitted unless the insects developed under natural field conditions. All of the observations were made in Pennsylvania unless otherwise stated.

CARABIDAE.

SCAPHINOTUS VIDUUS Dej. Six adults of this rare beetle were taken under boards near an abandoned sawmill in Horse Valley, Franklin County, on Oct. 9. Small cells had been made in the forest litter to accommodate the insects. The beetles are capable of stridulating by rubbing the sides of the abdomen on the sides of the elytra.

CLERIDAE.

CYMATODERA BICOLOR Say. Pupae of this beetle were found on Feb. 23, in a living hickory tree in Bear Valley, Franklin County, where the larvae had been feeding on the immature stages of *Encyclops coerulea* Say and *Microclytus gazellula* Hald.

THANASIMUS TRIFASCIATUS Say. Many adults of *Tetrastichus thanasimi* Ashm. were found in the pupal cells of this Clerid in Clark's Valley, Dauphin County, on Aug. 15. The *Tetrastichus* are parasites of the beetle larvae. Determination by Dr. A. B. Gahan.

PLOEOPTERVUS THORACICUS Oliv. Larvae of this insect were found feeding on *Agrilus defectus* Lec. larvae in dead white oak (*Quercus alba*) branches in Horse Valley.

ENOCLERUS LILJEBLADI Wolc. A prepupal larva of this rare beetle was found in a dead shortleaf pine (*Pinus echinata*) at Mont Alto, on March 18. The Clerid larva had been feeding on *Dendroctonus frontalis* Zimm. which had killed the tree. Numerous adults of this Clerid have been taken at various points in Pennsylvania on dead trees without bark. The beetles can be seen traveling up and down the trunks in the bright sunlight and might be mistaken for Mutillids.

* For Nos. 1, 2 and 3 see Can. Ent. Vol. 57, p. 112-115, 1925; ENT. NEWS, Vol. 41, p. 82-86, 101-102, 1930; Vol. 43, p. 42-45, 62-67, 1932.

ELATERIDAE.

ADELOCERA MARMORATA Fab. Beetles were reared at Hummelstown, from larvae collected in decayed elm infested with *Buprestis rufipes* Oliv. and *Anoplodera minnesotana* Csy. The adults mature in August and pass the winter in their pupal cells.

ATHOUS CUCULLATUS Say. Adults reared from larvae found in decayed elm at Hummelstown, infested with *Anoplodera minnesotana* Csy. The adults mature in July.

LEPTUROIDES PRODUCTUS Rand. On April 24 a pupa of this insect was found under the loose bark of a dead black oak in Horse Valley. The adult matured May 4.

ELATER SANGUINIPENNIS Say. Numerous adults were found in pupal cells in bald cypress (*Taxodium distichum*) stumps in a swamp at South Mills, North Carolina, on Dec. 7.

E. AEROLATUS Say. On Feb. 8, a living adult of this beetle was found under the tight bark of a living pitch pine (*Pinus rigida*) infested with *Dendroctonus frontalis* Zimm., at Mont Alto. Two living adults were also found under the loose bark of a hickory in Bear Valley.

ANCHASTUS DIGITATUS Lec. An adult was taken from its pupal cell in a decayed bald cypress (*Taxoxium distichum*) log at Cape Henry, Virginia, on Dec. 6.

BUPRESTIDAE.

BUPRESTIS RUFIPES Oliv. Adults were observed ovipositing in weathered elm snags without bark at Hummelstown on July 24. This confirms my assumption that the species is a dead wood feeder and that decaying trees are oviposited in year after year.

ANTHAXIA QUERCATA Fab. This species was reared on July 4, from dead branches of pitch pine (*Pinus rigida*) collected at Mont Alto.

CHRYSOBOTHRIS SEXSIGNATA Say. Adults were reared from dead branches of black spruce (*Picea mariana*) collected at Mildred and dead branches of pitch pine (*Pinus rigida*) collected at Mont Alto.

AGRILUS AUDAX Horn. This insect was found breeding in living slippery elm (*Ulmus fulva*) at Kansas City, Missouri. The larvae work through the sapwood of the infested branches and construct their pupal cells in the wood. The old pupal cells are soon covered by the living wood, but the emergence holes on the bark persist for several years after the adults escape.

Work was found in branches four inches in diameter. The height at which these infested branches occur might account for the beetle being rare in collections.

BRACHYS AEROSUS var. RUFESCENS N. & W. The adults of this color variety were abundant on the foliage of slippery elm (*Ulmus fulva*) at Hummeltown in June. They frequently gather on the leaves in numbers and feed extensively, cutting irregular holes.

OSTOMIDAE.

AIRORA CYLINDRICA Serv. Adults were reared from larvae found in the galleries of *Anoplodera minnesotana* Csy. and *Buprestis rufipes* Oliv. in decayed elm trees at Hummelstown. The larvae make irregular galleries in the wood in search of their food.

COCCINELLIDAE.

EPILACHNA CORRUPTA Muls. Numerous specimens of this beetle have been taken early in the spring from trees in wooded areas with the beating umbrella, before the beans in the adjacent sections have come up. Several of the captures were made in the mountainous sections many miles from the nearest bean patch.

ANOBIIDAE.

VRILLETTA LAURENTINA Fall. Many living adults were taken from irregular galleries in partly decayed linden (*Tilia americana*) branches in Bear Valley, on Feb. 26.

BOSTRICHIDAE.

STEPHANOPACHYS CRIBRATUS Lec. Living adults were taken from the outer bark of a living pitch pine tree at Mont Alto, on January 12. The tree had gone through a fire, although no visible damage had resulted. Determined by W. S. Fisher.

DINODERES MINUTUS Fab. This insect was found working extensively in bamboo which had been imported into Pennsylvania. Determination by W. S. Fisher.

CERAMBYCIDAE.

HYPERMALLUS VILLOSUS Fab. Adults have been reared from branches of witch hazel (*Hamamelis virginiana*) collected at Mont Alto. The living branches were infested.

GAUROTES CYANIPENNIS Say. Adults were observed ovipositing in fire killed red oak (*Quercus rubra*) in Horse Valley.

LEPTURA LINEOLA Say. Reared from dead ironwood (*Ostrya virginiana*) collected at Mont Alto.

L. EMARGINATA L. Reared from decayed American elm (*Ulmus americana*) log at Hummelstown.

ANOPLODERA MUTABILIS Newn. Reared from dead branch of ironwood (*Ostrya virginiana*) at Mont Alto.

A. MINNESOTANA Csy. Reared in large numbers from decayed American elm (*Ulmus americana*) log at Hummelstown.

STRANGALIA ACUMINATA Oliv. Reared from dead branch of ironwood (*Ostrya virginiana*) collected at Mont Alto.

ENCYCLOPS COERULEA Say. This insect was found working in the bark of a living pignut hickory, (*Carya glabra*) in Bear Valley.

PHYMATODES TESTACEUS L. On April 24, prepupal larvae and pupae were found in white pine (*Pinus strobus*) and pitch pine (*Pinus rigida*) slabs in a wood pile at an abandoned sawmill in Horse Valley. The pupal cells were under the bark.

XYLOTRECHUS QUADRIMACULATUS Hald. Many pruned blue beech (*Carpinus caroliniana*) branches were observed near Cross Forks. The damage was done by the larvae of this insect.

ANTHOBOSCUS RURICOLA Oliv. Reared from dead branch of ironwood (*Ostrya virginiana*) collected at Mont Alto.

CLYTUS MARGINICOLLIS Cast. This insect is rather rare in collections due to its habits. The adults collect on the under surfaces of small, cut, hard pine branches which receive full sunlight. The insects can be collected by carefully turning the limbs over. Traps for collecting the beetles can be arranged in this way. The branches should be cut in April.

MICROCLYTUS GAZELLULA Hald. This insect was found working in the bark of living pignut hickory (*Carya glabra*) in Bear Valley.

CYRTOPHORUS VERRUCOSUS Oliv. Reared from a dead ironwood (*Ostra virginiana*) branch collected at Mont Alto.

TILLOCLYTUS GEMINATUS Hald. Adults were reared from a dead wild grape vine collected at Mont Alto.

PURPURICENUS AXILLARIS Hald. An adult was reared at Mont Alto from a small chestnut (*Castanea dentata*) branch one inch in diameter which had been killed by the chestnut blight. The branch had not been girdled by the larva as is customary.

DORCASCHEMA ALTERNATUM Say. Adults emerged from injured branches of ossage orange (*Maclura pomifera*) at Hummelstown.

AEGOSCHEMA DECIPENS Hald. Reared from the sapwood of dead tulip poplar. (*Liriodendron tulipifera*) branch collected at Mont Alto.

LEPTOSTYLUS COLLARIS Hald. Found breeding in small dead white oak (*Quercus alba*) and red oak (*Quercus rubra*) branches in Horse Valley.

ASTYLOPSIS MACULA Say. Reared from dead branches of linden (*Tilia americana*) collected in Bear Valley and dead branches of buckeye (*Aesculus glabra*) collected in Greene County.

LEIOPUS LATERALIS Hald. Reared from dead branches of black alder (*Alnus rugosa*) at Hummelstown.

LEPTURGES SYMMETRICUS Hald. Reared from the dead branches of linden (*Tilia americana*). Collected in Bear Valley.

POGONOCHERUS PENICELLATUS Lec. Reared from small branches of drought-killed black spruce (*Picea mariana*) collected at Mildred.

MECAS VITTICOLLIS Csy. Recently a specimen which agrees with the Casey type was collected in the Chiricahua Mountains, Arizona, August 23, by Dr. E. D. Ball.

MYLABRIDAE.

MYLABRIS MIMUS Say. Reared from the seeds of black locust (*Robinia pseudo-acacia*) collected at Gettysburg.

PLATYSTOMIDAE.

ALLANDRUS BIFASCIATUS Lec. Reared from dead linden (*Tilia americana*) branches collected in Bear Valley.

CURCULIONIDAE.

CRYPTORHYNCHUS PAROCHUS Hbst. On May 8 hundreds of adults were observed on freshly cut butternut (*Juglans cinerea*) logs in Bear Valley. When the adults were placed in cyanide bottles they made a peculiar noise by rubbing the ends of the abdomens against the sides of the elytra.

SCOLYTIDAE.

SCOLYTUS RUGULOSUS Ratz. On Oct. 13 a cut American elm (*Ulmus americana*) branch was found at Cold Springs, New York, with living brood of this insect.

CRYPTURGUS CORRUGATUS Sw. Adults were collected from a dead pitch pine (*Pinus rigida*) branch at Mont Alto on May 1; also from a dead red spruce (*Picea rubra*) branch collected at Tamarack on May 6.

CHRAMESUS CHAPUISI Lec. Reared from dead branches of Hackberry (*Celtis ocidentalis*) collected at Hummelstown.

MONARTHRUM MALI Fitch. Adults were collected from a hemlock (*Tsuga canadensis*) stump on May 29, at Laporte.

STEPHANODERUS GEORGIAE Hopk. and S. CHAPUISI Eich. Adults were found in the dead stems of supple jack (*Berchemia scandens*) at St. Bernard, Louisiana, on Dec. 14. Determined by Dr. M. W. Blackman.

PITYOPHTHORUS PUBERULUS Lec. This insect was found breeding in the small dead tips of Japanese red pine (*Pinus densiflora*) at Reading.

P. PULICHARIUS Zimm. Found breeding in the small dead branches of Japanese black pine (*Pinus thunbergi*) at Trough Creek, Huntingdon County.

XYLEBORUS FITCHI Hopk. Many adults of both sexes were taken from the sapwood of dead standing pitch pines (*Pinus rigida*) on the Mont Alto State Forest in January. The adults had made extensive burrows through the partly decayed sapwood of the trees. Determination by Dr. M. W. Blackman.

Strymon ontario in Missouri (Lepid.: Lycaenidae).

By HAROLD O'BYRNE, Webster Groves, Missouri.

Strymon ontario Edw., originally described from Port Stanley, Ontario, has long been considered very rare, as only a few specimens are known. The localities from which it has heretofore been recorded are along the Atlantic Coast. Recently the writer collected some specimens in Missouri, of which examples sent to Mr. Austin H. Clark, of the U. S. National Museum, were identified by him as this species. Because of the rarity of the species and because the capture of specimens in Missouri greatly extends its known range, data on the Missouri specimens are given below.

Ranken (St. Louis County), May 24, 1932, 1 male; June 3, 1933, 1 male. Meramec State Park (Franklin County), June 2, 1933, 6 males. All collected by the writer and in his collection, except two of the Maramec State Park males, which are now in the collection of the U. S. National Museum.*

Inquiry among local collectors has yielded the following additional records of this species in St. Louis County, Missouri: Meramec Highlands, June 3, 1900, and Cliff Cave, May 27 and

*Since this paper was accepted for publication, the following records have been obtained: Meramec State Park, May 29, 1934, 7 males and 3 females; Allenton (St. Louis County), June 3, 1934, 4 males and 1 female.

June 17, 1906, 1 specimen on each date collected by Dr. E. P. Meiners, of St. Louis; Barrett's, May 28, 1933, 1 specimen collected by Mr. P. S. Remington, Jr., of St. Louis.

The specimens collected by the writer show considerable variation in the amount of orange on the upper surface; one looks much like Holland's figure of *S. favonius* Sm. & Ab. (Butterfly Book, pl. xxix, fig. 22), while some have little or no orange. All were taken on rocky, oak-covered hillsides, such as are familiar to every frequenter of the Ozarks, and were flying in company with the very abundant *S. calanus* Hbn., from which they could be distinguished, even while flying, by their smaller size. Since most of the specimens were badly worn, emergence undoubtedly begins some time earlier than the above records indicate. Further search in southern Missouri at the proper season should reveal the presence of *ontario* in other localities.

Two New Generic Names (Diptera: Tachinidae, Dexiidae.

By Charles H. T. Townsend.

Rohdendorfia gen. nov. (Miltogrammini).

Proposed for *Miltogramma* s. str. of Rohdendorf (1930-Lindner, Fliegen pal. Region, Lief. 39). Genotype *Tachina oestracea* Fall. Differs from *Miltogramma*, genotype *M. punctatum* Meig., by frontalia almost equally broad, cheeks at most scarcely over one-sixth of eye-length, distinct median marginal bristles on second segment, vertex of both sexes two-fifths and face one-third of head width, fourth joint of male front tarsi lacking long hairs but with several, long, bent spines protruding upward between claws.

Alitophasia gen. nov. (Melanophorini).

Proposed for *Litophasia albisquama* Vill. from Pyrenees of Spain. Differs from *Litophasia* by distinct median marginal pair of bristles on third segment, squamae moderately large, parafacialia narrow, costal border of wings infuscate. This is the smallest muscoid fly known, measuring only one and one-half millimeters.

Records of Florida Dragonflies—1.*

By C. Francis Byers.

In 1929, the author (Byers, 1930) finished writing an account of the Odonata of Florida which contained all of the information on that subject known to the writer at that time. During the five subsequent years, the Florida dragonfly list has received important changes and additions. It is the purpose of this paper to record these modifications.

New information has been made available through the activities of two field expeditions, the sporadic efforts of the author and the work of graduate students at the University of Florida:

1. The Byers-Spieth expedition, financed by the University of Michigan, collected insects in southeastern United States during the summer of 1930. Collections were made in Baker, Alachua and Liberty Counties, Florida (Byers, 1931).

2. The Williamson-Ditzler expedition of 1932 collected over much of the same territory. (Williamson & Gloyd, 1933. Gloyd 1933).

3. The author made several trips into eastern and southern Florida at various dates.

4. Graduate students of the University of Florida have added considerably to the number of specimens and records of Odonata from Alachua County. In this connection mention should be made of the work of Mr. R. P. Trogdon, who has succeeded in rearing a large number of Zygoptera in connection with his work on certain ecological aspects of Lake Warburg.

In the following list all of the specimens captured in new localities and on different dates than recorded in the 1930 publication (Byers, 1930) are not given. Only those records are listed that are pertinent to the understanding of the occurrence, distribution and life-histories of dragonflies in Florida. The new additions are as follows:

Part I.

1. Negomphoides ambigua (Selys). Dade County, Royal Palm Park, June, 1930, (1 ♂). Alachua County, Newnans Lake, July, 1932, (1 ♀). The Williamson-Ditzler expedition took a large series of what appears to be this species from Liberty County.

* Contribution of the Department of Biology, University of Florida, Gainesville.

2. PROGOMPHUS OBSCURUS (Rambur). Alachua County, Newnans Lake, May, 1930, (4 ♂ ; 1 ♀); Newnans Lake, May, 1931, (1 ♂); Magnesia Springs, May, 1932, (2 ♂). The nymphs of this species have been found to be very common in most all of the clean sand bottom streams and lakes in Alachua County.

3. ANAX LONGIPES Hagen. Alachua County, May, 1930, (1 ♂). Nine nymphs of what are probably this species were taken in a small pond near Gainesville, February, 1931.

*4. MACROMIA GEORGINA (Selys). Alachua County, Gainesville, July, 1930, (16 specimens). Taken near the city limits flying in an open pine woods some distance from a small stream.

*5. SOMATOCHLORA LINEARIS (Hagen). Liberty County, "Camp Torreya", July, 1925, (1 ♀). Captured by Dr. T. H. Hubbell, who notes that it was taken, "Playing in a ravine woods near small sand bottomed swift creek." E. B. Williamson also records the presence of this species in the same county, 1932, (Williamson & Gloyd, 1933).

6. ERYTHRODIPLAX UMBRATA (Linne). Dade County, Royal Palm Park, October, 1930.

7. BRACHYMESIA GRAVIDA (Calvert). Alachua County, Newnans Lake, September, 1930, (1 ♂ ; 1 ♀); July, 1932, (1 ♀).

8. MACRODIPLAX BALTEATA (Hagen). St. Johns County, May, 1930, (1 ♀). Taken from the radiator of an automobile near St. Augustine.

*9. LESTES RECTANGULARIS Say. Alachua County, Gainesville, April, (1 ♂).

10. ARGIALLAGMA MINUTUM (Selys). Dade County, Royal Palm Park, October, 1929, (1 ♂ ; 4 ♀).

11. ENALLAGMA LAURENTI Calvert. Alachua County, May, 1930, (3 ♂ ; 4 ♀). Mr. R. P. Trogdon has reared a number of this species from nymphs taken at Lake Warburg, March and April, 1934.

*12. TELEBASIS SALVA (Hagen). Alachua Cunty, University of Florida Campus, May, 1932, (4 ♂). Marion County, Micanopy, May, 1930, (3 ♂). Mr. Trogdon has also reared a number of this species from Lake Warburg material.

13. ISCHNURA RAMBURII Selys. This is one of the most common species of damselflies in Florida, yet little was known in regard to the nymph until Mr. Trogdon's work mentioned above.

*14. I. KELLICOTTI Williamson. Alachua County, May, 1934 (6 ♂ ; 12 ♀).

PART II.

In this portion of the list are given records taken from the

literature only. The author has not seen the specimens indicated.

*15. SOMATOCHLORA CALVERTI Williamson & Gloyd. Described as a new species from Florida (Williamson & Gloyd, 1933). Taken in Liberty County, August, 1932.

*16. SOMATOCHLORA PROVOCANS Calvert. Liberty County, August, 1932 (Williamson & Gloyd, 1933).

17. SOMATOCHLORA FILOSA (Hagen). Liberty County, August, 1932 (Williamson & Gloyd, 1933).

*18. TETRAGONEURIA SEPIA Gloyd. Madison County, Greenville, September, 1932, (1 ♂). Described as a new species from Florida (Gloyd, 1933).

The species added to the Florida list in the foregoing (*) bring the total number of species occurring, or said to occur, within the state to 127.

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A Note on the Disposition of Type Material.

The writer recently received a letter from a correspondent who was contemplating work on some parasitic wasps sent him by several field stations in the southwest. He states therein that he had written to a professor of a western college, where the types of nine of the species of the genera involved were recorded as having been deposited, but received no response to his request. Later he wrote again asking that a genotype species be examined for him, but again no reply or acknowledgment of his letter. More recently he sent specimens to a student in Holland who has access to a collection containing some types and received reply that "it will be two years before he [the student] will be able to devote himself to the study of this group," not even offering to take a few minutes to make the comparisons.

My correspondent closes by saying "Two examples of what happens when types are deposited in institutions where there is no specialist in the order or even a working entomologist."

Although it may be considered as ideal to have all types deposited in a certain place where there is every possibility of their being properly cared for; it is not always desirable or safe to have all the eggs in one basket. On the other hand they should be deposited only in internationally-known institutions which have been established for the purpose of preserving natural history material, and not in those established primarily for instruction or for the exhibition alone of such material and dependent upon appropriations granted by political assemblies. —E. T. CRESSON, JR.

A Reminder.

It might be well to call attention again to a very important amendment to Article 25 of the International Rules of Zoological Nomenclature adopted by the International Zoological Congress X. Budapest, September, 1927.

This article 25 (Law of Priority) as amended, reads as follows:

A valid name of a genus or species can be only that name under which it was first designated on the condition * * * (a) That this name was published and accompanied by an indication, or a definition, or a description; and (b) That the author has applied the principles of binary nomenclature. But no generic name nor specific name published after December 31, 1930, shall have any status of availability (hence, also of validity) under the rules, unless and until it is published either (1) With a summary of characters (seu diagnosis; seu definition; seu condensed description) which differentiate or distinguish the genus or the species from other genera or species; (2) Or with a definite bibliographic reference to such summary of characters (seu diagnosis; seu definition; seu condensed description). And further (3) In the case of a generic name, with the definite unambiguous designation of the type species (seu genotype; seu autogenotype; seu orthotype).

We here find that any genus erected after 1930 for two or more species without a specifically designated genotype has no status. Consequently anyone subsequently may take the credit for this genus merely by designating a genotype and he may have no knowledge of the group involved. The same may be the fate of a genus or species described if no mention is made as to how it differs from another known or properly described genus or species.—E. T. CRESSON, JR.

Entomological Literature

COMPILED BY LAURA S. MACKEY UNDER THE SUPERVISION OF E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The **figures within brackets** [ ] refer to the journal in which the paper appeared, as numbered in the list of Periodicals and Serials published in our January and June issues. This list may be secured from the publisher of ENTOMOLOGICAL NEWS for 10c. The number of, or annual **volume**, and in some cases the part, heft, &c. the latter **within** ( ) follows; then the pagination follows the **colon** :

All continued papers, with few exceptions, are recorded only at their first installments.

(*) Papers containing new forms or names not so stated in titles, have an * within parentheses thus (*) following the pagination of reference to paper.

(S) Papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Note. Titles of papers containing new forms or new names will be indicated by an asterisk within parentheses at end of reference, (*).

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A MONOGRAPH OF THE COLLEMBOLA OF IOWA. By HARLOW B. MILLS. 143 pages, including 12 plates. Collegiate Press, Inc., Ames, Iowa. Price, $2.25.—The collector who wishes to name and to know more about the Collembola that he comes across, can do so with the aid of this book; for the commonest species of Iowa are also common in most of the United States and Canada, and in Europe as well; while not a few of them are cosmopolitan. Dr. Mills has "broken the record" by recording 132 species from Iowa. Seventy-nine species and 9 varieties have been listed from New York and 58 species from Minnesota. The classification adopted is a conservative one, which serves its purpose, yet avoids an undue splitting of groups. The system is, of course, essentially that of Börner, who made few taxonomic mistakes. This book, like Guthrie's Collembola of Minnesota, is a useful comprehensive manual, and an excellent introduction to the works of specialists. Credit is due to the editor and the publisher for producing a first class book at a reasonable price. Collembola are now known to be of no little economic importance. Their depredations have often been attributed to other causes. Of some 2,000 species that have been named, about 50 have been proved to be injurious, and a few of these are at times even pests.—J. W. FOLSOM.

ENTOMOLOGY WITH SPECIAL REFERENCE TO ITS ECOLOGICAL ASPECTS by JUSTUS WATSON FOLSOM, Sc.D., Senior Entomologist, U. S. Bureau of Entomology, revised by R. A. WARDLE, Professor of Zoology, University of Manitoba, Winnipeg, Canada. Fourth revised edition. Five plates, 308 text-figures.

Philadelphia. P. Blakiston's Son & Co., Inc. Copyright 1934. 8vo. Pp. x, 605. $4.00.—Reviews of the first, second and third editions of this excellent text-book appeared in the NEWS for September, 1906, page 262; November, 1913, page 424; and April, 1923, page 127. This new edition has slightly more than 100 pages more than the third, due partly to the fact that the type-form is nearly one-half inch narrower and one-half inch shorter, and partly to the revision's having added many paragraphs. Very few changes in the text-figures have been made. The number and titles of the chapters remain as in the third edition, with one slight abbreviation. The contents of all of them have been altered to a greater or less degree; a section on Physiology of Nutrition, based on Uvarov's summary of 1929, in Chapter II is new; Chapter IX, Insects and Disease, the sections on temperature and on moisture of XIII, Ecology, and those on Introduction and spread of injurious insects and on Economic Entomology in North America of XIV, Insects in relation to Man, have been rewritten. Among the smaller changes or additions are those on the hypotheses concerning the evolution of insects (pp. 6-8), the interrelationships of the insect orders (pp. 24-29, with a new fig. 33), hypotheses on the origin of wings (pp. 60-62), chitin (78-80), structure of muscle (90-91), taste (100), smell (102), hearing (110-111), peritrophic membrane (123-4), details of respiration (147-148), various details of embryology (155-165) and external metamorphosis (165-192). The whole of the reviewer's copy is similarly marked, but the list given is sufficient to indicate how extensive the revision has been. The third and fourth editions have come from the press with two references, *pg*, in fig. 45, instead of *p* and *pg*, as correctly given in the first two editions. Dimmock's transverse section of the mouth parts of the female mosquito has been retained (p. 47) in spite of Thompson's criticism (Proc. Boston Soc. Nat. Hist. 32: 149, 1905). The statement on page 155 seems to imply that *all* the daughter nuclei in the process of maturation of the egg are expelled as polar bodies. The terms *pre-maturation period* and *maturation period* employed (p. 166) to designate post-embryonic stages are pre-occupied by their use in gameto-genesis. The first two lines of the fourth and of the fifth paragraphs on p. 329 seem to be contradictory. On page 354 we read, "The term *multiparasitism* may be used to indicate the coincident parasitism of an insect by two or more parasites of *different species*," and "Superparasitism refers to the infestation of a host by two or more parasites, or of course parasitoids,

of the same species." The term superparasitism has been used in different senses. Thus, the Century Dictionary of 1906 gave it as "The infestation of parasites by other parasites; hyperparasitism." Fiske believed he was proposing the term superparasitism in 1910 and gave this definition: "Superparasitism results when any individual host is attacked by two or more species of primary parasites, or by one species more than once. It differs materially from secondary parasitism, or hyperparasitism as it is variously called, although both are, strictly speaking, double parasitism of an individual. In superparasitism the parent females are both attracted to the primary host primarily for its own sake. In hyperparasitism one of them is attracted to the primary host secondarily and incidentally, and for the sake of the primary parasite which it harbors." (Jour. Econ. Ent. 3: 89-90). The word superparasitism as here used by Prof. Wardle would seem to be superfluous; if only one individual of species A infests a host we have simple parasitism; if two individuals of A infest it we would have superparasitism. We regret, too, that *parasitoid* is adopted and used in contrast with *parasite* (pp. 347 *et seq.*), although employed also by Dr. Wheeler. The parasitoid condition, as defined by Prof. Wardle, is more justly appreciated as a degree of intensity of parasitism. We would have liked a fuller summary of the physiology of the nervous system, of Harvey's results in photogeny, of Goldschmidt's work on intersexes in *Lymantria,* of mention of Hale Carpenter, Heikertinger and F. M. Jones in connection with adaptive coloration. We are evidently insatiable! The literature list at the end of the book has always been an important and valuable feature of "Folsom." It, too, has necessarily been revised. Prof. Wardle's preface tells us "the Russian and German literature, in particular, may have been incompletely surveyed." "The titles are arranged in chronological order"; this does not apply to the section Bibliographical Works. It holds true for that on Systematic Entomology, where it results in scattering the references to each systematic group throughout nearly three pages of smaller type. A taxonomic arrangement here would surely have been more useful, while one by topics would apparently be better in the sections Autecology, Synecology and perhaps some others. But while we have pointed out some errors or defects—as they appear to us—we emphasize again, as we have done on three earlier occasions, the great value, wide outlook and readability of this book, to which, as Dr. Folsom says in a prefatory note, Prof. Wardle has greatly added.—P. P. CALVERT.

A GENERAL TEXTBOOK OF ENTOMOLOGY including the anatomy, physiology, development and classification of Insects. By A. D. IMMS, D.Sc., F.R.S., University Reader in Entomology, Cambridge. New York, E. P. Dutton and Co., Inc. Pp. xii, 727, 624 figs.—Although jacket and a preface announce this as a third edition, no mention of this fact and no date of publication are given on the title-page. The preface cited is dated Cambridge, March, 1934. The jacket describes the volume as "a comprehensive reference textbook of Entomology" and claims, probably correctly, that it "covers more ground and gives more detailed information than any other work of a similar character published in the English language." The first edition appeared in 1925, the second in 1930; they were noticed, respectively, in the NEWS for November, 1925, and October, 1930. The book has been sufficiently long before the public to become well known, so that the present interest lies largely in the changes appearing in the present edition. "Some 37 new illustrations have been included and, of these, 20 replace figures that have done duty previously, while the remainder are additional." The titles and numbers of the chapters are the same as before. Additions to the references to literature over and above those given in the second edition appear at the end of each section. The text shows a greater number of changes from, and additions to, that of the second edition than the latter does from the first. All through Parts I, Anatomy and Physiology, and II, Development and Metamorphosis, these are numerous, if not extensive. The only noteworthy omission seems to be Lehmann's researches (Jena, G. Fischer, 1925) in connection with the arrangement and distribution of the tracheae among the different groups (p. 120). In Part III, The Orders of Insects, are more detailed classifications of Dermaptera, Ephemeroptera, Strepsiptera and Symphytous Hymenoptera, very extensive alterations in that of Lepidoptera, division of the Diptera into three suborders, Nematocera, Brachycera and Cyclorrhapha, union of the Muscidae with the Anthomyidae under the latter name (although the generic name *Musca* does, while *Anthomyia* does not, appear in the tenth edition of the *Systema Naturae*), union of the Sarcophagidae and the Calliphorinae with the Tachinidae under the last name, thereby reducing the number of families of Calypterae to three, with much of the text on these rewritten. Somewhat similar treatment has been accorded the Vespidae and allies. The name Pantophthalmidae is used instead of Acanthomeridae, and a few lines are devoted to the Helotrephidae, an addition to the Hemiptera. Dr. Imms has succeeded admirably in bringing his great work up to date. P. P. CALVERT.

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